

**IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF PENNSYLVANIA**

**ALLSTATE INSURANCE COMPANY
A/S/O THOMAS AND LISA ELLIS**

Plaintiff,

v.

LG ELECTRONICS USA, INC.

Defendant.

Civil Action No: 2:19-cv-03529

**PLAINTIFF’S MEMORANDUM OF LAW IN SUPPORT OF ITS RESPONSE TO
DEFENDANT’S MOTION IN LIMINE TO PRECLUDE TESTIMONY OF
CHRISTOPH J. FLAHERTY, P.E.**

Plaintiff, by and through undersigned counsel, herein provides this memorandum of law in support of its Response to the Motion *In Limine* of Defendant, LG Electronics USA, Inc., to Preclude Testimony of Christoph J. Flaherty, P.E., (ECF No. 32).

I. INTRODUCTION

This products liability action stems from a fire that badly damaged the home of Tom and Lisa Ellis in Norwood, Delaware County, Pennsylvania on or about March 10, 2019. The damages sustained were caused by an eleven-year-old LG refrigerator, which erupted into flames suddenly and without warning while Tom and Lisa Ellis were enjoying Sunday dinner with family at a nearby restaurant. Allstate insured the property, paid \$298,368.62 for the damage and demands reimbursement from LG.

There is no credible dispute as to where the underlying fire at issue in this case began. Upon arrival, the responding firefighters observed the refrigerator in flames. Norwood Fire Company investigated and officially determined that the fire began, “in the area of the refrigerator and extended up.” Chief Chris Givens was one of the first firefighters on the scene. Chief Givens examined the refrigerator’s remains immediately after the fire. He later testified that he observed

more flame damage to the interior of the Ellis' LG refrigerator than he had witnessed previously to the inside of any refrigerator throughout his 35-year career. Chief Givens opinion that the fire began inside the top third of the refrigerator is based on witness statements, fire dynamics and fire pattern analysis – all of which are approved methods of determining a fire's area and/or point of origin according to NFPA 921.

Robert Buckley, a certified fire investigator with more than 50 years of experience, performed an independent investigation. Buckley also concluded that the fire began inside the top third of the refrigerator. Just as NFPA 921 recommends, Buckley used witness statements, fire dynamics, fire patterns and arc mapping to arrive at that conclusion. In determining that the refrigerator caused the fire, Buckley identified several electrical components within the refrigerator that he could not eliminate as potential heat sources of ignition.

Chief Givens and Buckley considered and eliminated the hypothesis that this fire began on the cooktop surface of the gas range that was adjacent to the refrigerator. The range had not been used in months according to witnesses. Nothing was stored on top of the range. After the fire, no debris was found adhered to the cooktop surface. The first-in firefighters described the fire coming from the refrigerator, not the range. According to every expert who has been designated to testify in this case, arc mapping also did not support a fire originating on the range's cooktop surface. Though at least one burner control was found in the "on" position when the range was examined later in the lab, Buckley testified that it is common practice for firefighters – particularly from Norwood Fire Company – to turn a gas range's controls to the "on" position after a fire is suppressed and gas has been shut off to ensure disconnection. The kitchen's gas range cannot be blamed based on the available evidence.

LG's instant motion, therefore, focuses on Allstate's inability to identify the refrigerator's precise failure mode. LG badly misses the crux of this case and, in the process, mischaracterizes both the proposed expert opinion testimony of Christoph J. Flaherty, P.E. and Pennsylvania strict products liability law. Flaherty, who LG tacitly admits is well-qualified to opine about the subject matter at issues and whose causation opinions fit the case, faithfully applied the approved fire investigation method and techniques outlined in NFPA 921 in forming the opinions he expects to offer at trial. With regard to the refrigerator, Flaherty concluded that there existed insufficient data to test and eliminate two defect-related causation hypotheses. Importantly, however, by his careful testing and analysis of the data, Flaherty eliminated abnormal use and all other reasonable secondary causes of the refrigerator's malfunction except for the potential defects he identified. The fact that Flaherty admits that he cannot assign one potential defect over another as the cause of the LG refrigerator's malfunction does not call into question the reliability of his opinions nor is it fatal to Allstate's claims. If anything, Flaherty's opinions are more reliable and establish that the defective condition of LG's refrigerator caused Allstate's damages.

LG's Motion should therefore be denied.

II. STATEMENT OF FACTS

This action seeks to recover for damage to real and personal property sustained in the wake of a March 10, 2019 fire in Norwood, Pennsylvania. *See generally* Compl., ECF No. 1. Plaintiff alleges the fire was caused by "a catastrophic malfunction and/or defect" of a Kenmore Elite branded refrigerator designed, assembled, manufactured, and sold by Defendant, LG Electronics USA, Inc. ("LG"). Compl., ECF No. 1, at ¶ 9, 10.

After the fire, Chris Givens, Chief of the Norwood Fire Company investigated the fire. Givens has been Chief for eight years and a firefighter for thirty five years. *See* Exhibit A, Chris

Givens Dep. Tr., at 6-7. He has responded to an estimated five to six thousand fires. *See* Exhibit A, Chris Givens Dep. Tr., at 9. According to Givens, a fire fighter witnessed the fire coming from the refrigerator “like a blow torch” from the top third of the refrigerator before the ceiling above the refrigerator collapsed. *See* Exhibit A, Chris Givens Dep. Tr., at 15-21, 58-59. In addition, Givens conducted an investigation to determine the origin of the fire. *See* Exhibit A, Chris Givens Dep. Tr., at 55-56. He described that the burn patterns were consistent with a fire starting in the refrigerator. *See* Exhibit A, Chris Givens Dep. Tr., at 20-21, 57-61. At his deposition, Givens walked through photographs of the burn patterns describing how such patterns led to this conclusion. *See* Exhibit A, Chris Givens Dep. Tr., at 61-69. Givens invited five other fire chiefs from local fire departments that had responded to the scene to give their opinions on the fire and they all agreed the fire started in the refrigerator. *See* Exhibit A, Chris Givens Dep. Tr., at 21-26. None of them found that the stove’s burner knobs had been on. *See* Exhibit A, Chris Givens Dep. Tr., at 90.

In support of its claim, Plaintiff retained fire origin and cause investigator Robert Buckley. Buckley has over fifty-two years’ of firefighting, fire prevention, and fire investigative training and experience. *See* Exhibit B, Robert Buckley Report, at 2. Buckley inspected the fire scene and, later, evidence harvested from the fire scene in a laboratory, viewed photographs of the fire scene and evidence, interviewed Plaintiff’s subrogors and Fire Chief Givens, and reviewed the deposition transcripts of Plaintiff’s subrogors and Fire Chief Givens. *See* Exhibit B, Robert Buckley Report, at 2. Based on his investigation, he determined that the fire originated in or within the refrigerator and, specifically, in the interior top third portion. *See* Exhibit B, Robert Buckley Report, at 7-8.

He reached this conclusion after considering and ruling out all other possible sources of the fire, including the stove. *See* Exhibit B, Robert Buckley Report, at 6-7. He was able to rule out a fire starting on the stove because of burn patterns and the Plaintiff's subrogors testified that they had not used the stove for several months. *See* Exhibit B, Robert Buckley Report, at 6. In addition, though one knob appeared to have been in the on position, there was no fuel load present capable of igniting if the knob had been on during the fire. *See* Exhibit B, Robert Buckley Report, at 6. He further noted that it is common for burner knobs on stoves to appear on after a fire due to falling debris or other overhaul efforts and firefighters turning knobs on to ensure gas utilities have been turned off. *See* Exhibit B, Robert Buckley Report, at 6-7. In addition, Chief Givens specifically told Buckley that firefighters had checked the knobs to make sure the gas was not on after the fire. Exhibit I, Buckley Dep. Tr., at 196-97.

Buckley was also able to rule out a fire starting inside the stove because the power cord, gas line, and duplex outlet on the wall were undamaged by the fire. *See* Exhibit B, Robert Buckley Report, at 7. However, in determining that the refrigerator caused the fire, Buckley identified several electrical components within the refrigerator that he could not eliminate as potential heat sources of ignition. *See* Exhibit B, Robert Buckley Report, at 7.

Additionally, Plaintiff retained electrical engineer, Christoph J. Flaherty. Flaherty is an electrical engineer with over 25 years' experience. *See* Exhibit C, Flaherty CV. He has over 15 years' experience investigating failures of household consumer products like the refrigerator at issue here. *See* Exhibit C, Flaherty CV. He was retained to for a specific and narrow purpose: to "provide electrical engineering expertise to the fire origin and cause investigation being conducted" by Plaintiff's fire origin and cause expert, Robert Buckley. Exhibit D, Flaherty Report, at 1.

Flaherty began his investigation by reviewing available evidence. This included review of reports authored by the Norwood Fire Company and Buckley, who both opined that the fire originated inside the subject refrigerator. *See* Exhibit D, Flaherty Report, at 1, 3. He further reviewed photographs of the fire scene as well as the physical evidence harvested from the fire scene. *See* Exhibit D, Flaherty Report, at 3. Flaherty also reviewed the refrigerator's service bulletins, documentation related to the refrigerator's design, manufacture, testing, and use, as well as the deposition transcripts of the Fire Chief and Plaintiff's subrogors. *See* Exhibit D, Flaherty Report, at 1, 4.

Based on Buckley's determination that the fire started in the interior top third portion of the refrigerator, Flaherty then began to consider potential electrical sources of the fire in or around that area and methodically rule them out based on available evidence. At the end, only one theory remained that he was unable to rule out based on the area of the fire's origin – that the fire was caused by a defect and/malfunction of the product. *See* Exhibit D, Flaherty Report, at 5-6. Accordingly, Flaherty concluded "within a reasonable degree of engineering certainty" that "the fire was caused by a defect within the refrigerator." *See* Exhibit D, Flaherty Report, at 6. As evidence of a defect, Flaherty points to two specific potential failure modes, both indicative of a defect, which could not be eliminated as a potential cause: 1) the lightbulb assembly could have overheated and ignited nearby combustibles; and 2) the failure of insulation on a circuit due to mechanical damage. *See* Exhibit D, Flaherty Report, at 5-6.

LG now moves to preclude Flaherty from testifying at trial as an expert. For the reasons expressed below, LG's Motion should be denied.

III. LEGAL STANDARD

Under Federal Rule of Evidence 702, “[a] witness who is qualified as an expert by knowledge, skill, experience, training, or education may testify in the form of an opinion or otherwise if:

- (a) the expert's scientific, technical, or other specialized knowledge will help the trier of fact to understand the evidence or to determine a fact in issue;
- (b) the testimony is based on sufficient facts or data;
- (c) the testimony is the product of reliable principles and methods; and
- (d) the expert has reliably applied the principles and methods to the facts of the case.”

Fed. R. Evid. 702.

In *Daubert v. Merrell Dow Pharmaceuticals* the Supreme Court described the district court’s role under Rule 702 as gatekeepers of evidence and scientific testimony, “ensur[ing] that any and all scientific testimony or evidence is not only relevant, but reliable.” *Dalton v. McCourt Elec. LLC*, 112 F. Supp. 3d 320, 324 (E.D. Pa. 2015) (citing *Daubert*, 509 U.S. 579 (1993)). An expert’s opinion is reliable if it is based in sound methodology and technique. *In re Paoli R.R. Yard PCB Litig.*, 35 F.3d 717, 742 (3d Cir. 1994).

A “district court must have considerable leeway in deciding in a particular case how to go about determining whether particular expert testimony is reliable” *Dalton*, 112 F. Supp. 3d 320, 325 (E.D. Pa. 2015) (quoting *Kumho Tire v. Carmichael*, 526 U.S. 137 at 152 (1999)). Notably, this evaluation does not include an analysis of the expert’s conclusion. Rather, the focus remains on the principles and methodology the expert employed. *Id.* at 744. If the principles and methodologies are reliable, then its conclusions should be scrutinized by the fact finder. *Id.*

[T]he evidentiary requirement of reliability is lower than the merits standard of correctness. As long as an expert’s scientific testimony rests upon ‘good grounds, based on what is known,’ it should be tested by the adversary process—competing expert testimony and active cross examination, rather than excluded from juror’s scrutiny for fear that they will not grasp its complexities or satisfactorily weigh its inadequacies.

USAA Cas. Ins. Co. v. Metro. Edison Co., No. 1:12-CV-1178, 2014 WL 3943706, at *4 (M.D. Pa. Aug. 12, 2014) (citing *United States v. Mitchell*, 365 F. 3d 215, 244 (3d Cir. 2004)). Regarding this preference, “the Third Circuit has emphasized that not only do the Rules of Evidence generally ‘embody a strong preference for admitting any evidence that may assist the trier of fact,’ but Rule 702 specifically ‘has a liberal policy of admissibility.’” *Dalton*, 112 F. Supp. 3d at 325 (citing *Pineda v. Ford Motor Co.*, 520 F.3d 237, 243 (3d Cir.2008)).

IV. LEGAL ARGUMENT

Flaherty’s expert opinion that a defect caused the fire is admissible under the liberal standards of Rule 702 and *Daubert*. LG’s argument to the contrary stems from a fundamental misapplication or misunderstanding of Pennsylvania product liability law. Below, Plaintiff will first explain how Flaherty’s opinion is consistent with Pennsylvania product liability law and admissible under Rule 702 and *Daubert* before moving on to address LG’s specific arguments in more detail.

A. Flaherty’s Expert Opinion is Admissible

LG’s entire motion is premised on the demonstrably false premise that Plaintiff, in order to prosecute a product liability action in Pennsylvania, must present to the jury a specific theory on the exact failure and cause of the fire. In turn, LG wrongfully alleges that Flaherty must identify a single specific failure mode in order to be admissible as an expert on the origin and cause of the fire. There is no such requirement.

i. Pennsylvania Law does not require Plaintiff identify a specific defect

Under Pennsylvania law – and specifically, the Consumer Expectation Test – a product is defective if it is “upon normal use, dangerous beyond the reasonable consumer’s contemplations.” *High v. Pennsy Supply, Inc.*, 154 A.3d 341, 348 (Pa. Super. 2017) (*Tincher v.*

Omega Flex, Inc., 104 A.3d 328, 387 (Pa. 2014)). “The test offers a standard of consumer expectations which, in typical common law terms, states that: the product is in a defective condition if the danger is unknowable and unacceptable to the average or ordinary consumer.” *Id.* Additionally, under what is often termed “malfunction theory”, “Plaintiffs are not required to prove the precise nature of the alleged defect.” *Dalton*, 112 F. Supp. 3d at 327-28. “Under the malfunction theory of product liability, the plaintiff must produce (1) evidence of the occurrence of a malfunction, (2) evidence eliminating abnormal use, and (3) evidence eliminating reasonable secondary causes for the malfunction.” *Id.* (quotations and citations omitted). Importantly, “[e]vidence supporting this theory relieves the plaintiff from the obligation to pinpoint the precise defect, and indicates that the alleged defect both caused the injury and existed when the product left the manufacturer's control.” *Id.*

Thus, Flaherty’s expert opinion that a defect in the refrigerator caused the subject fire is entirely consistent with Plaintiff’s burden of proof under Pennsylvania strict liability law.

ii. Flaherty adhered to the principles of the scientific method and NFPA 921 to reach his conclusion that a defect caused the fire

The manner in which Flaherty reached his expert opinion that a defect caused the fire was based on a reliable methodology and, therefore, his opinion is admissible. Flaherty followed the scientific method as outlined in National Fire Protection Association 921 – a Guide for Fire and Explosion Investigations. The scientific method, as outlined in NFPA 921, has been determined by a number of district courts in this circuit to be a reliable method to determine the cause of a fire. *See, e.g., Hoang v. Funai Corp.*, 652 F. Supp. 2d 564, 567 (M.D. Pa. 2009); *Allstate Ins. Co. v. Hamilton Beach/Proctor-Silex, Inc.*, No. 2:06CV1186, 2008 WL 3891259, at *5 (W.D. Pa. Aug. 19, 2008); *State Farm Fire & Cas. Co. v. Hartman Contractors*, No. CV 14-6535, 2017 WL 2180292, at *7 (E.D. Pa. May 18, 2017).

Under the scientific method in this context, to determine the cause of a fire, an investigator is to define the problem, collect data, analyze data, develop hypotheses, test the hypotheses, and select a final hypothesis. *See* Exhibit E, NFPA 921 Provisions, § 4.3 and Figure 4.3 (general method to fire investigation). Developing and then testing hypotheses are the key steps in reliably determining the cause of a fire and are accomplished using inductive and deductive reasoning:

4.3.5 Develop a Hypothesis (Inductive Reasoning). Based on the data analysis, the investigator produces a hypothesis, or hypotheses, to explain the phenomena, whether it be the nature of fire patterns, fire spread, identification of the origin, the ignition sequence, the fire cause, or the causes of damage or responsibility for the fire or explosion incident. This process is referred to as inductive reasoning. These hypotheses should be based solely on the empirical data that the investigator has collected through observation and then developed into explanations for the event, which are based upon the investigator's knowledge, training, experience, and expertise.

4.3.6 Test the Hypothesis (Deductive Reasoning). The investigator does not have a valid or reliable conclusion unless the hypothesis can stand the test of careful and serious challenge. Testing of the hypothesis is done by the principle of deductive reasoning, in which the investigator compares the hypothesis to all known facts as well as the body of scientific knowledge associated with the phenomena relevant to the specific incident. Testing of a hypothesis should be designed to disprove, or refute, the hypothesis. This may also be referred to as falsification of the hypothesis. If the hypothesis is refuted or not supported, it should be discarded and alternate hypotheses should be developed and tested.

See Exhibit E, NFPA 921 Provisions, §§ 4.3.5 and 4.3.6.

In practice, the scientific method involves using the data collected to hypothesize different reasonable possible causes of the fire and to then methodically rule them out based on the evidence known to the investigator. If the investigator is left with one reasonable possible hypothesis, the investigator may opine that this is the probable cause of the fire. The scientific method does not require an investigator “prove” his hypothesis. Rather, as long as the “likelihood of the hypothesis being true is greater than 50 percent” the investigator can determine that the hypothesis is the “probable” cause of a fire and express that opinion with reasonable scientific certainty. *See* Exhibit

E, NFPA 921 Provisions, §§ 4.5.1 and 4.5.2. Thus, an investigator that can rule out all other reasonable possible causes – save one – has reliably determined the cause of a fire under Rule 702.¹

This is exactly the manner in which Flaherty reached his opinion on the cause of the fire here. Drawing upon his background and expertise as an electrical engineer, Flaherty examined the evidence in light of the public sector and Mr. Buckley's expert opinion. Flaherty reviewed and analyzed the potential electrical failures external to the refrigerator and was able to eliminate them.² These potential causes included failures of the refrigerator and range power cords, failure of the green extension cord behind the range, failure of the house branch circuit wiring or outlets, and the failure of the range's electronics or internal wiring. *See* Exhibit D, Flaherty Report, at 5. Flaherty was able to rule out the power cords and house wiring and outlets based on the lack of fire damage to them. *See* Exhibit D, Flaherty Report, at 5. He was further able to rule out the green extension cord and range electronics and wiring because they did not show evidence of an electrical failure and based on exhibiting fire patterns/damage consistent with damage caused from being attacked by fire – not from being the source of such fire. *See* Exhibit D, Flaherty Report, at 5.

Through his own examination of the refrigerator where he traced and measured certain wiring involved in the fire, Flaherty found the evidence consistent with Mr. Buckley's opinion regarding the fire's origin; he could eliminate all other electrical sources of ignition adjacent to the

¹ *See, e.g., Mut. Ben. Ins. Co. v. Kaz, Inc.*, No. 1:12-CV-2108, 2014 WL 671445, at *3 (M.D. Pa. Feb. 20, 2014); *Cnty. Ass'n Underwriters of Am., Inc. v. Rhodes Dev. Grp. Inc.*, No. 1:09-CV-0257, 2013 WL 818596, at *11 (M.D. Pa. Mar. 5, 2013); *Hoang*, 652 F. Supp. 2d at 568; *State Farm Fire & Cas. Co.*, 2017 WL 2180292, at *7; *Allstate Ins. Co. v. Anderson*, No. CV 15-2651, 2016 WL 2939506, at *3 (E.D. Pa. May 20, 2016); *Dalton*, 112 F. Supp. 3d at 329.

² Additioanlly, all potential failure modes external to the refrigerator were ruled out by Plaintiff's origin and cause investigator, Robert Buckley.

refrigerator and most of the fire damage to the refrigerator occurred within the top interior portion. *See Exhibit D, Flaherty Report, at 6.* Furthermore, Flaherty was able to rule out abnormal use or abuse of the refrigerator (i.e. by Plaintiff's subrogors or prior service) as a potential cause of the fire based on Mr. Buckley's opinion as well as the absence of any evidence whatsoever to support such a conclusion. *See Exhibit D, Flaherty Report, at 6.* LG has not disputed this conclusion and has not alleged any abnormal use or abuse by Plaintiff's subrogors or prior servicers like SEARS.

As such, the only possible cause of fire that remained was a defect and/or malfunction of the refrigerator. *See Exhibit D, Flaherty Report, at 6.* Flaherty's theory is further supported by the existence of two potential failure modes that could have occurred and would have resulted in a fire starting in the same location where the fire occurred here.

First, Flaherty identified electrical arcing on the FD-HTR circuit which could have indicated that the conductor had become mechanically damaged and led to its failure. *See Exhibit D, Flaherty Report, at 5.* Second, design and testing documents from LG show that the failure of a relay switch could cause the refrigerator's internal lightbulb to remain on even when the door is closed and overheat. *See Exhibit D, Flaherty Report, at 4.* Flaherty theorized that the lightbulb could have ignited nearby combustibles and started the fire. *See Exhibit D, Flaherty Report, at 5.*

Ultimately, Flaherty was unable to rule out either of these two potential failures mode. However, the existence of these two failure modes provide evidence in support of Mr. Buckley's determination that the fire originated within the top third of the refrigerator and evidence that a defect caused the fire. *See Exhibit D, Flaherty Report, at 5-6.*

Accordingly, because Plaintiff need only provide evidence that a defect caused the fire and Flaherty reached his opinion that a defect caused the fire using an appropriate methodology, Flaherty's expert opinion is admissible and LG's motion must be denied.

iii. Flaherty utilized the same methodology as LG's experts

Flaherty employed a reliable method to reach his expert conclusions. LG, while purporting to take issue with his methodology, simply disagrees with his conclusions. This is best illustrated by comparing the method Flaherty used with the methods used by LG's own experts – whom LG will not likely argue employed a flawed methodology to reach their opinions. LG's experts and Flaherty both used the same method – ruling out potential causes of the fire – based on a review of the same evidence. They've reached different conclusions, but the methodology was same. Under the Federal Rules of Evidence, it is for the jury to evaluate the expert's conclusions at trial and not the trial court on a *Daubert* motion. *See, e.g., Kannankeril v. Terminix Int'l, Inc.*, 128 F.3d 802, 807 (3d Cir. 1997) (“The analysis of the conclusions themselves is for the trier of fact when the expert is subjected to cross-examination.”).

Like Plaintiff's experts, LG's fire origin and cause expert examined the fire scene, the evidence harvested from the scene in a laboratory, photographs, deposition transcripts of fact witnesses, and the parties' discovery documents. *See* Exhibit F, David Smith Report, at 7. He then, using the evidence mentioned above and burn patterns, proceeds to rule out potential causes of the fire until he lands on a single hypothesis that he cannot rule out. *See* Exhibit F, David Smith Report, at 33-46.

Similarly, like all other experts, LG's electrical engineer examined the fire scene, the evidence harvested from the scene in a laboratory, photographs, deposition transcripts of fact witnesses, and the parties' discovery documents. *See* Exhibit G, John Nemeth Report, at 5. He then, using the evidence mentioned above and burn patterns, attempts to rule out the refrigerator as a potential cause of the fire. *See* Exhibit G, John Nemeth Report, at 21-36.

Neither of LG's experts allege that they reviewed any documents or evidence that Plaintiff's experts had not. Neither of LG's experts allege to have conducted any testing that Plaintiff's experts had not. For all intents and purposes, the methods of the parties' respective experts were the same. This illustrates that LG's arguments here are really attacks on the conclusions that Flaherty has made. This type of attack does not go to the admissibility of Flaherty's expert opinion.

B. Flaherty's identification of two potential ignition sources within the refrigerator, both attributable to a defective condition, do not render his opinion inadmissible.

LG's arguments that Flaherty's opinion is inadmissible misses the mark. Plaintiff will address each argument in further detail below.

i. Flaherty's testimony is helpful to the jury

LG first argues that Flaherty's expert testimony is not helpful to the jury. LG believes such testimony is not helpful because he does not identify a singular specific defect that started the fire. This argument is based on a fundamental misunderstanding or misapplication of Pennsylvania product liability law.

As shown above, under the Consumer Expectation Test and Malfunction Theory, Plaintiff need only produce evidence that a defect caused the subject fire and rule out all other reasonable causes to satisfy its burden of proof. *See Dalton*, 112 F. Supp. 3d at 327-28. Plaintiff need not identify a defect with any particularity. *Id.* Because Flaherty's testimony will assist in ruling out reasonable secondary causes and opine that a defect caused the fire, his testimony is relevant and helpful to a jury applying Pennsylvania product liability law.

It is true that Flaherty identified two separate possible failure modes that could have started the fire. LG likens this to a situation where an expert cannot rule out two unrelated potential causes

of the fire. However, that is not the case here and LG simply misunderstands the purpose of this testimony. This testimony is *not* proof that Flaherty is unable to determine the cause of the fire. Had the interior portion of the refrigerator not been so badly damaged, Flaherty may have been able to select one potential failure to the exclusion of the other. However, both failures each unequivocally demonstrate that a defect caused the fire. *See* Exhibit D, Flaherty Report, at 6. Because these two specific ignition sources within the area of origin cannot be eliminated, Flaherty's opinion supports the conclusion that a defect caused the fire and such testimony will help a jury come to understand how the fire occurred within the refrigerator and why the fire cannot be linked to any actions on the part of a third party.

Additionally, Flaherty's opinion does not run afoul with the Pennsylvania standards for the degree of certainty upon which an expert must make their conclusions. Again, LG's argument to the contrary is focused on the two potential failure modes that Flaherty identified rather than his ultimate conclusion that a defect caused the fire. Flaherty's report is clear and states that "within a reasonable degree of engineering certainty" that "the fire was caused by a defect within the refrigerator." *See* Exhibit D, Flaherty Report, at 6.

Finally, LG's reliance on *Lanza v. Poretti* is misplaced as that case is distinguishable. 537 F. Supp. 777, 785 (E.D. Pa. 1982). In *Lanza*, a trial court excluded a fire origin and cause investigator from testifying at trial because the investigator was unable to rule out whether the fire was caused by careless smoking or arson. *Id.* The trial court found that such testimony would be speculative. *Id.* However, unlike the investigator in *Lanza*, Flaherty here is able to rule out all possible causes of the fire other than a defect. The inability to reach a specific conclusion on the exact failure mode does not change this ultimate conclusion.

ii. Flaherty's opinion is properly based on evidence in the record

LG expends much effort attempting to dissect the scientific and evidentiary bases of the two potential failure modes identified by Flaherty. In doing so, LG fundamentally misstates Flaherty's opinion. As described, Flaherty has not concluded that either of these two potential failure modes started the fire. He is merely identifying them as possible failure modes and, in turn, using the existence of such possibilities as evidence (along with the evidence that all other possible causes did not start the fire) which supports Mr. Buckley's conclusion that the fire originated within the top one third of the refrigerator.

Flaherty readily agreed with LG's attorney and stated in his deposition that he does not have a sufficient evidentiary bases to determine which one of the two potential failure modes actually started the fire. *See* Exhibit H, Christoph Flaherty Dep. Tr., at 73-74, 78, 107-108. LG's criticism of Flaherty goes to the weight and not the admissibility of his opinion.

At trial, LG can cross-examine Flaherty on the stand making the same arguments in its brief— i.e. that Flaherty cannot determine which specific failure mode caused the fire. Notwithstanding the same, a jury could still find that the refrigerator was dangerous beyond the reasonable consumer's expectations and, therefore, was defective. Flaherty's opinion is not dependent on the truth or falsity of the two potential failure modes.

When Flaherty's opinion is put in its proper context, it is clear that LG's arguments are simply attacks on the conclusion that Flaherty drew from his analysis of the record and not his actual methodology. Such an attack on a conclusion drawn from sufficient data is inappropriate for a *Daubert* motion and more appropriate for cross-examination. *See e.g. Stecyk v. Bell Helicopter Textron, Inc.*, 295 F.3d 408, 414 (3d Cir.2002) ("Rule 705, together with Rule 703, places the burden of exploring the facts and assumptions underlying the testimony of an expert witness on opposing counsel during cross-examination."); *Kannankeril*, 128 F.3d at 807 ("The

analysis of the conclusions themselves is for the trier of fact when the expert is subjected to cross-examination.”). Notably, LG does not attempt to impeach Flaherty’s actual methodology. In other words, LG does purport to take any issue with the process in which he and Buckley eliminated all other potential causes of the subject fire other than a defect.

Despite the overall irrelevancy of LG’s arguments that the failure modes could not have occurred, Plaintiff will briefly address its argument directly. There is a sufficient factual record upon which Flaherty can opine that these failure modes could have occurred.

First, there is sufficient evidence supporting Flaherty’s opinion that the lightbulb could have overheated and ignited nearby combustibles. This failure mode was identified by LG documents produced in discovery and can occur when a relay switch gets stuck resulting in the lightbulb staying on even when the door is closed. *See* Exhibit D, Flaherty Report, at 4. Upon identifying this as a potential failure mode, LG undertook certain steps to prevent this from happening, including putting in a larger relay switch that makes it less likely to get stuck and a thermal limit switch that is supposed to turn off the lightbulb if it reaches a certain temperature. This larger switch and thermal limiter were present in the subject refrigerator at the time of the fire. Nonetheless, these safety features merely make the occurrence less likely to occur rather than prevent it outright. *See* Exhibit H, Christoph Flaherty Dep. Tr., at 35-36, 75-76, 157. Thus, Flaherty is unable to eliminate it as a potential failure mode. Mr. Flaherty testified that he had no evidence to suggest the thermal protector was “properly selected in terms of setpoint,” “was properly installed,” or had continued to “function properly” during the 11-year life of the refrigerator. *Id.*

Second, there is a sufficient basis for Flaherty’s assertion the fire could have started when wires on the FD-HTR circuit were damaged during installation. Flaherty points to arcing found on such wires as evidence they could have failed. *See* Exhibit D, Flaherty Report, at 5. Flaherty

admits, as LG points out, that the arcing seen on the circuit could have been caused by either its failure or by being attacked by the fire. *See* Exhibit D, Flaherty Report, at 5. Nonetheless, because it is impossible to discern one way or the other, it remains as a potential failure mode that could have started the fire. *See* Exhibit D, Flaherty Report, at 6.

iii. Flaherty followed the scientific method outlined in NFPA 921

Flaherty faithfully followed the general scientific method outlined in NFPA 921. As cited above, this generally methodology comes from Chapter 4 of NFPA 921. LG provides two assertions that Flaherty did not follow NFPA 921.

First, LG argues that Flaherty did not follow NFPA 921 because it alleges he did not perform any “testing.” This is simply false. Though testing is a step in the scientific method, testing – for purposes of NFPA 921 and the scientific method – does not have to include physical experiments. Rather, the deductive reasoning used to eliminate potential causes of the fire *is* testing:

4.3.6 Test the Hypothesis (Deductive Reasoning). The investigator does not have a valid or reliable conclusion unless the hypothesis can stand the test of careful and serious challenge. Testing of the hypothesis is done by the principle of deductive reasoning, in which the investigator compares the hypothesis to all known facts as well as the body of scientific knowledge associated with the phenomena relevant to the specific incident. Testing of a hypothesis should be designed to disprove, or refute, the hypothesis. This may also be referred to as falsification of the hypothesis. If the hypothesis is refuted or not supported, it should be discarded and alternate hypotheses should be developed and tested.

See Exhibit E, NFPA 921 Provisions, § 4.3.6. There is no requirement, under NFPA 921 or otherwise, that an expert perform physical experiments to test their opinion. In any event, Flaherty testified that physical testing would not have been relevant because it was impossible to recreate the exact fire scene. Exhibit H, Christoph Flaherty Dep. Tr., 36-37, 51-52, 129-130.

Second, LG argues that Flaherty did not follow NFPA 921 because he was unable to select a final hypothesis as to the cause of the fire. Again, this is factually incorrect. A fair reading of Flaherty's report shows that, after ruling out all other potential causes, Flaherty selected a defect as his final hypothesis and, thus, the cause of the fire for purposes of the scientific method and Pennsylvania product liability law. *See* Exhibit D, Flaherty Report, at 6.

LG's citation to Flaherty's deposition testimony wherein he stated that he is unable to select a final hypothesis must be read in context. Again, a fair reading of Flaherty's report shows that he followed the general scientific method outlined in Chapter 4 of NFPA 921. At this deposition, Flaherty was referring to the definition of the word "cause" under Chapter 19 of NFPA 921 – a chapter specifically devoted to providing guidelines for determining the exact ignition sequence of a fire. *See* Exhibit E, NFPA 921 Provisions, § 19.1.1. Flaherty does not purport to be able to identify a specific ignition sequence (i.e. a specific defect) here. And, as discussed above, Pennsylvania law does not require Plaintiff to offer such evidence. Thus, Chapter 19 of NFPA 921 is irrelevant to both Flaherty's opinion and Plaintiff's case. It must further be noted that NFPA 921 is not canon and "NFPA § 1.3 states that its provisions are intended to be guidelines, given every fire incident is unique, and it recognizes that not all techniques will be applied in a particular investigation." *United States v. Idaho Cty. Light & Power Coop. Ass'n, Inc.*, No. 3:17-CV-00391-CWD, 2020 WL 603478, at *9 (D. Idaho Feb. 7, 2020). As such, "strict adherence to NFPA 921 is not required." *Id.*

Accordingly, Flaherty's opinion is admissible because he employed a reliable methodology.

iv.. Even if Flaherty's testimony is excluded, LG is not entitled to summary judgment

LG seems to take it as self-evident that, should Flaherty be precluded, that it would be entitled to summary judgment. Even absent Flaherty's testimony, Plaintiff has sufficient evidence from which a jury could determine that a defect caused the fire. Here, both Plaintiff's origin and cause investigator and Fire Chief Givens place the fire within the refrigerator. *See* Exhibit D, Flaherty Report, at 1, 3. This, combined with Plaintiff's subrogors testimony that they used the refrigerator as intended in a reasonable fashion, is sufficient to rule out all possible causes of fire other than a defect. Under the Consumer Expectation Test and Malfunction Theory, Plaintiff would have satisfied its burden of proof. *See, e.g., Dalton*, 112 F. Supp. 3d at 327-28.

Accordingly, even if Flaherty's testimony is inadmissible, LG is not entitled to summary judgment.

V. CONCLUSION

For all of the foregoing reasons, Plaintiff respectfully request that this Honorable Court deny the Motion In Limine of Defendant, LG Electronics USA, Inc., to Preclude Testimony of Christoph J. Flaherty, P.E.

Respectfully Submitted,

de LUCA LEVINE, LLC

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